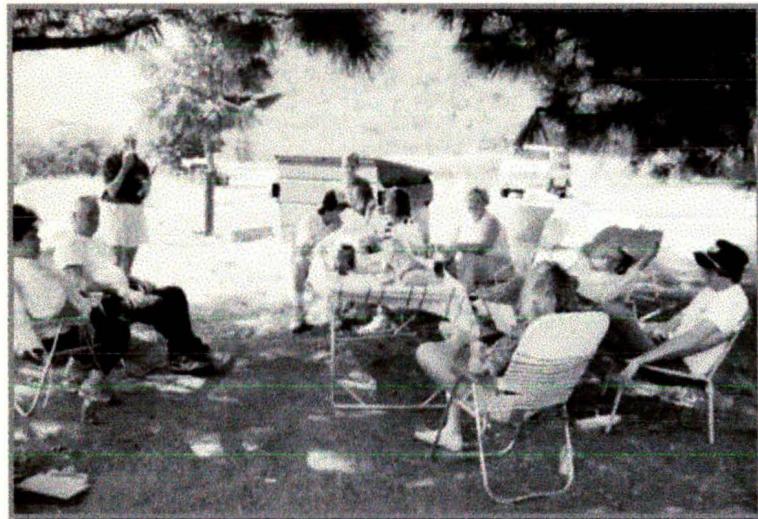


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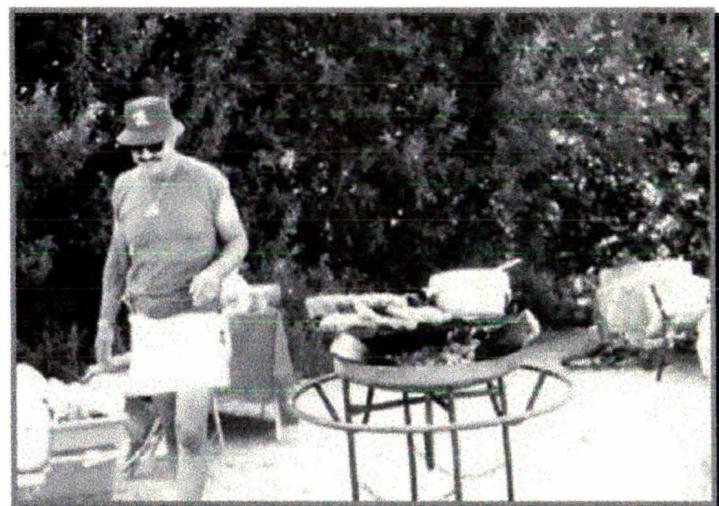
## Day Use Series: 2001, the San Bernardino National Forest



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## **Background**

The San Bernardino National Forest covers about 820,000 acres within San Bernardino and Riverside Counties. Of this area, about 162,000 acres are in private, county, State and other Federal agency ownership. The Forest lies within 2 hours driving distance of more than 16 million residents of southern California.

The San Bernardino National Forest is one of the most heavily-used in the nation and was ranked 12<sup>th</sup> in recreation use among National Forests in 1995, with 6.3 million visitor days (it was ranked third in California). Developed recreation sites on the Forest frequently exceed their design capacity during weekends of high season use (includes summer and winter). General Forest recreation accounted for 4.5 million visitor days in 1982 and has increased since then. It is important to examine use of recreation sites and get visitor points of view about those sites.

The following reports results from a day use visitor contact survey conducted on the San Bernardino National Forest in summer 2001. The survey is a replication of the day use survey conducted on the San Bernardino National Forest in 1992 (Chavez & Mainieri 1995). The purpose of the current study was to investigate day use recreation on the forest and make comparisons to data collected 10 years ago. The primary objectives were to:

- (1) Gain a stronger understanding of recreation visitor characteristics,
- (2) Report visitation patterns,
- (3) Determine on-site activities,
- (4) Determine interpretation, communication & information patterns,
- (5) Report on the relative importance of site attributes,
- (6) Report other visitor perceptions,

- (7) Make comparisons among specific subgroups for objectives 1 – 6, and
- (8) Make comparisons to results from a similar day use study on the San Bernardino National Forest 10 years ago.

## Methods

The day use survey instrument was initially developed in cooperation with the San Bernardino National Forest in 1992. The Office of Management and Budget approved the current instrument (expires October 2002). The instrument closely follows the questions asked of day use visitors in 1992.

Dates of data collection were randomly selected throughout the summer months 2001. Data were collected from 270 recreationists at day use sites on weekend days throughout the summer from June 16 to September 22, 2001. Half the data collection days were on Saturday and half were on Sunday. The survey instruments were available in English and Spanish. Bilingual teams from California State University at San Bernardino collected data under a cooperative agreement with the Pacific Southwest Research Station.

Day Use sites were also randomly selected from all developed picnic areas, general day use areas, and trailhead sites across the Forest. The following areas were selected: Forest Falls Picnic Area, Grout Bay Picnic Area, Lake Fulmor Picnic Area and day use area, Jenks Lake Picnic Area, Crest Park Picnic Area, Heap's Peak Arboretum trailhead, Aspen Glen Picnic Area, Green Mountain day use areas, Applewhite Picnic Area, Lake Hemet Picnic Area and day use areas, Baylis Picnic Area, and Middlefork day use area.

All visitors (age 18 or over) on-site were asked for their voluntary participation in the survey. Visitors were assured confidentiality of their responses. A total of 492 adults were contacted. Of those contacted 273 agreed to fill out questionnaires (55.5%); three of the

completed questionnaires were unusable. Usual reasons for not participating in the research process were: not interested; didn't speak English or Spanish; only wanted to fill out one per family; just stopped to use the restroom facilities.

A few variables were created or used for the analyses so that comparisons could be made between specific subgroups. These include (1) Hispanic (n = 121) versus not Hispanic (n = 125); (2) first-time visitors (n = 132) versus repeat visitors (n = 138); (3) age using 34 as the median, respondents under age 34 (n = 148) and respondents age 34 or older (n = 114); (4) education experience of high school or less (n = 129) and those with at least some college (n = 134); and (5) site with 205 respondents contacted at developed picnic areas and 65 respondents at other day use sites. Only statistically significant ( $p = 0.05$ ) results are reported for the subgroups.

## Results

Responses are provided in the form of percentages. Some averages, or means, are also provided where appropriate. Statistics are reported for all 270 respondents unless noted otherwise.

### *Visitor Characteristics*

Among day use site visitors, approximately half were male (49%) and half female (50%). Respondents' age ranged from 18 to 89 years, with an average age of 35 years ( $SD = 11.91$ ). On average, survey respondents had 13.08 years of education ( $SD = 3.11$ ). Approximately half of visitors had a high school education or less (48%), while half have some college education or degree (50%). More non-Hispanics (75%) than Hispanics (34%) have gone to college ( $p=.000$ ).

Slightly more visitors indicated that they were not Hispanic or Latino (46%) than those who did (45%). Mexican-Americans were the largest cultural group of those visitors surveyed, followed by Whites (see Fig. 1).

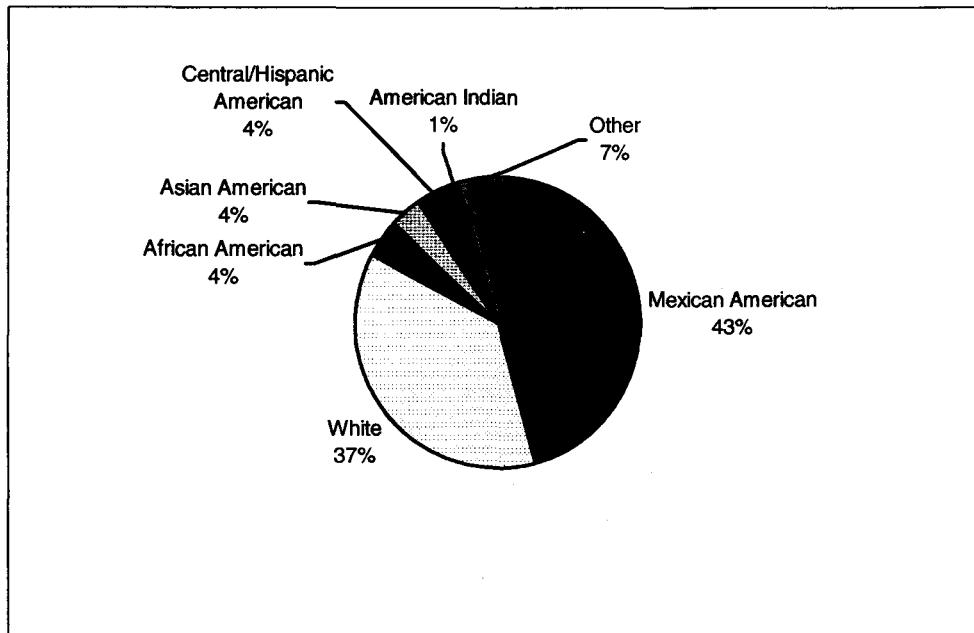


Figure 1. Racial/ethnic group affiliation (n = 270)

English was spoken (52%) and read (57%) most of the time by over half of the visitors surveyed. Additionally, almost 4 in 10 of the participants indicated that Spanish was their primary spoken (40%) and written language (39%). The majority of Hispanic respondents reported that they spoke (72%) and read (65%) Spanish most of the time, while the majority of non-Hispanics spoke (94%) and read (97%) English ( $p=.000$ ). Korean was spoken and read by less than 1% of respondents.

Over one-third of the visitors surveyed indicated they were California natives (34%), with a large percentage born elsewhere in the United States (28%) or in Mexico (23%).

Approximately 6 in 10 individuals had resided in the United States all their lives (64%).

Of those who have lived elsewhere (27%), the average amount of time lived in the US was 16.5 years (SD = 7.08).

Household income was quite varied, with slightly more than half of visitors (54%) reporting an annual household income of \$39,999 or less (see Fig. 2). In general, Hispanic visitors had lower incomes when compared to non-Hispanics. Forty-nine percent of Hispanics reported annual earnings of between \$10,000 and \$29,999, while 48% of non-Hispanics earned \$60,000 or more annually (p=.000).

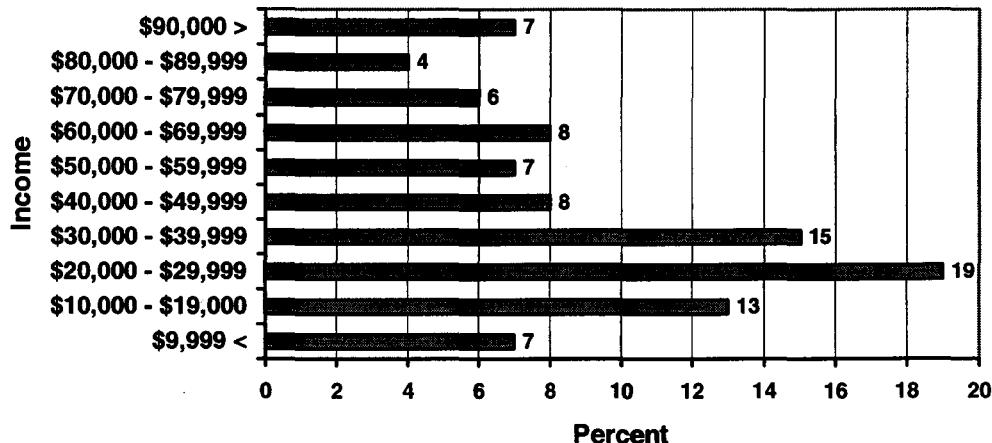


Figure 2. Annual household income (n = 270)

The majority of day use visitors were recreating with family members (70%) and friends (46%). Some respondents were recreating with an organized group (10%), alone (3%) or with a church (2%). Respondents were also asked how long a visit they would have. Only 6 percent planned to stay less than one hour. Over one-third (38%) planned a 1 to 3 hour visit while another 27% planned 4 to 6 hour visits and 18 percent planned to stay more than 6 hours (see Fig. 3). Repeat visitors tended to stay longer than first time visitors ( $p=.004$ ), and picnic area users were more likely to stay longer as well ( $p=.002$ ).

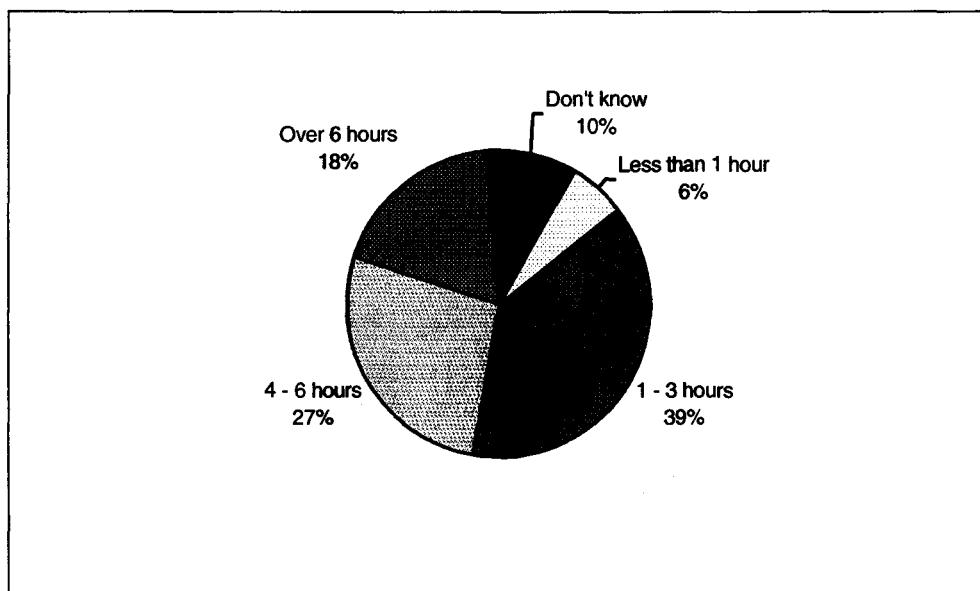


Figure 3. Length of visit (n = 270)

#### *Visitation Patterns*

About half of the day use visitors were repeat visitors (51%); that is, they had been to the forest before. Of repeat visitors, most had visited an average 3.6 times in the past 12 months (range = 0 - 20; SD = 3.20) and had been coming to the forest for about 5 years. On average, repeat visitors who were Hispanic visited the site fewer times than non-Hispanics (means = 2.89 and 4.56, respectively,  $t (51.92) = 2.39$ ,  $p < .05$ ). Also, respondents who

were surveyed at a picnic area on the date of contact were more likely to have been to the site before ( $p=.019$ ), than were people contacted at other day use sites.

More than six in ten (62%) day use visitors were planning to return to the site again in the next 12 months, with picnic area visitors more likely to plan to do so ( $p=.018$ ). Another 23% were unsure of their plans, while 15% had no plans to return in the next 12 months. Visitors that had been to the site before were more likely to indicate that they planned to return within the next year ( $p=.000$ ). Over half the day use visitors (56%) had visited *other* National Forest day use areas in the past 12 months and these people had visited a median 6 times. One-quarter (25%) had no plans to visit in the next 12 months and 17% were unsure of their plans. Of those repeat visitors, non-Hispanics returned a higher number of times than Hispanic visitors (means = 10.6 and 5.09, respectively,  $t (115) = 4.19$ ,  $p = .000$ ).

While half of the day use visitors traveled less than an hour to get to the recreation site (50%), almost as many traveled an average 2.05 hours to get to the site (46%;  $SD = 0.76$ ).

### Visitor Activities On-site

A series of four questions addressed activity patterns. Figure 4 indicates that day use visitors primarily engaged in picnics/barbecues and day hikes while on the forest. Other usual activities include stream play, sightseeing, driving for pleasure, camping, and watching wildlife. College-educated respondents (mean = 4.77) engaged in a significantly higher number of activities when compared to those with a high school education or less (mean = 6.23,  $t (260.54) = 3.09, p = .002$ ). Additionally, non-Hispanic visitors reported participation in more activities than the Hispanics in our sample, (means 6.44 and 4.60, respectively,  $t (235.61) = 3.99, p = .000$ ). For non-Hispanic and Hispanic visitors alike, day hiking and sightseeing were the most typical activities, but non-Hispanics respondents participated at a higher rate than Hispanics. For visitors 34 years and older, camping was the usual activity engaged in while on the National Forests ( $p=.008$ ), while watching wildlife was popular with visitors younger than 34 years of age ( $p=.018$ ).

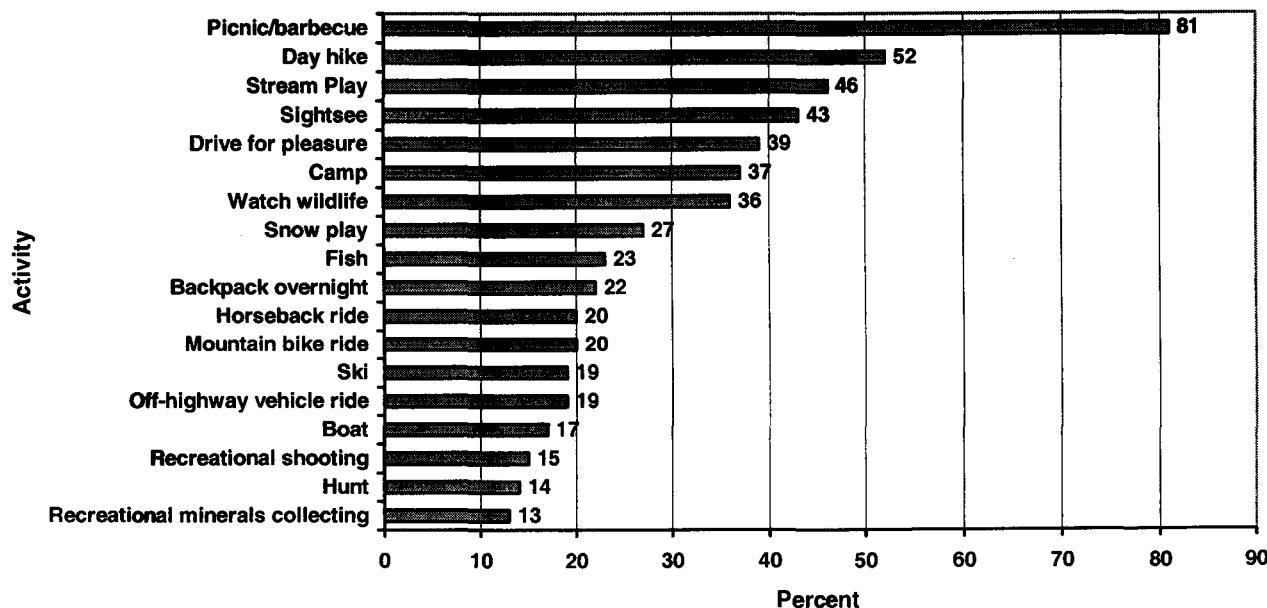


Figure 4. Activities in which respondents usually engage while visiting the National Forests of Southern California ( $n = 270$ )

Favorite among the activities were picnicking/barbecuing and camping (see Fig. 5).

Results indicate that camping was the favorite among visitors 34 years of age and older ( $p=.018$ ), while picnicking/barbequing was popular with respondents younger than 34 years ( $p=.018$ ), and with Hispanic visitors ( $p=.003$ ).

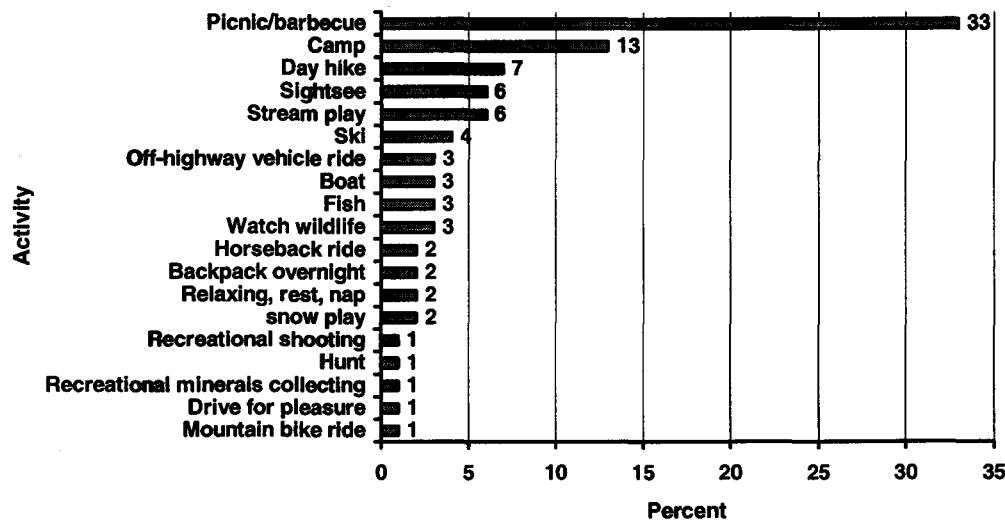


Figure 5. Favorite activities (n = 270)

Activities engaged in most often were picnicking/barbecuing, sightseeing, and camping (see Fig. 6). Fifty percent of Hispanics and 38% of non-Hispanic visitors reported that picnicking/barbequing was the activity they engaged in most frequently ( $p=.043$ ).

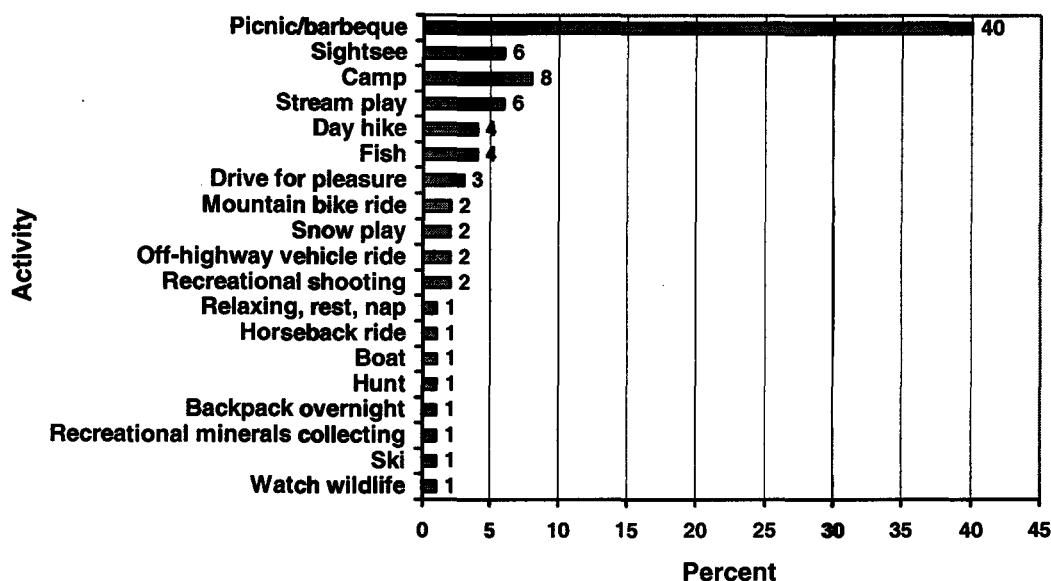


Figure 6. Activities engaged in most often ( $n = 270$ )

Most day use visitors were engaged in the following activities on the day we contacted them: picnic/barbecuing, stream play, day hiking, and sightseeing (see Fig. 7). They were engaged in an average of 5.47 ( $SD = 3.88$ ) activities on the date contacted.

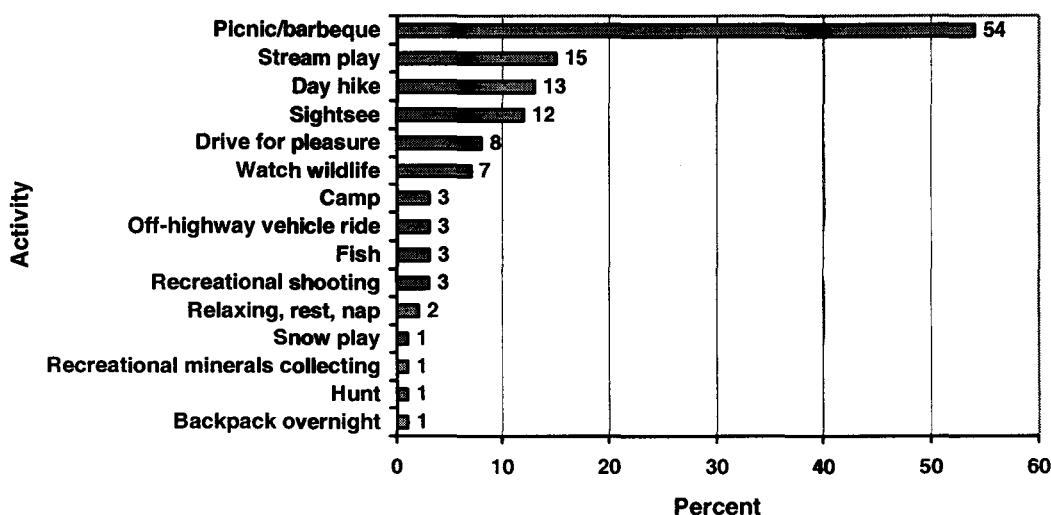


Figure 7. Activities on day contacted ( $n = 270$ )

Respondents were asked if they had heard of, had tried, or might try a range of recreational activities in three different categories: Traditional activities (i.e., natural history hikes, horseback tours), new activities (i.e., mountain biking, camera safaris, eco-tours), and high risk activities (i.e., heli-skiing, bungee jumping, hang gliding). Overall, the results indicate that the traditional activities were the ones most likely to have been heard of, tried, and would possibly be tried in the future (see Fig. 8). With the exception of mountain biking, fewer respondents had heard of or participated in the new activities, and less than 30% indicated they would be willing to try the activities in this category. Overall, few people had heard of, tried or might try heli-skiing, although 26% of visitors younger than 34 years of age indicated that they have tried this activity ( $p=.028$ ), and 31% of this group responded that they might try heli-skiing in the future ( $p=.025$ ). Approximately 7 in 10 respondents had heard of bungee jumping and hang gliding, though few had actually tried these activities.

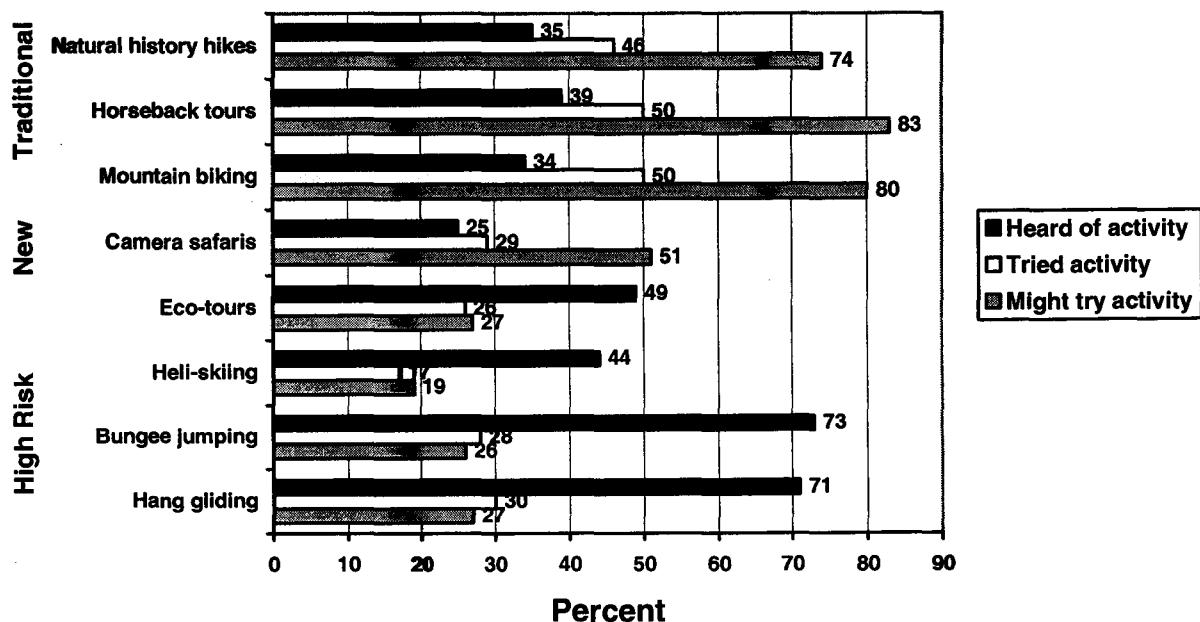


Figure 8. Activity trends (n = 270)

### *Interpretation, Communication, and Information*

Day use visitors were interested in a range of informational talks (see Fig. 9). Nearly one-half of respondents indicated they would attend talks on animals and their habitats if offered. Other popular topics were local mountain history, the effects of pollution on forests, safety issues, and citizen involvement in forest protection. Preferred children's topics (n=23) included animals, wildlife, nighttime sights, stars, care of forests, how kids can protect the environment, education, flora, and Indian lore. "Other" topics (n=17) included shooting, hunting, and fishing.

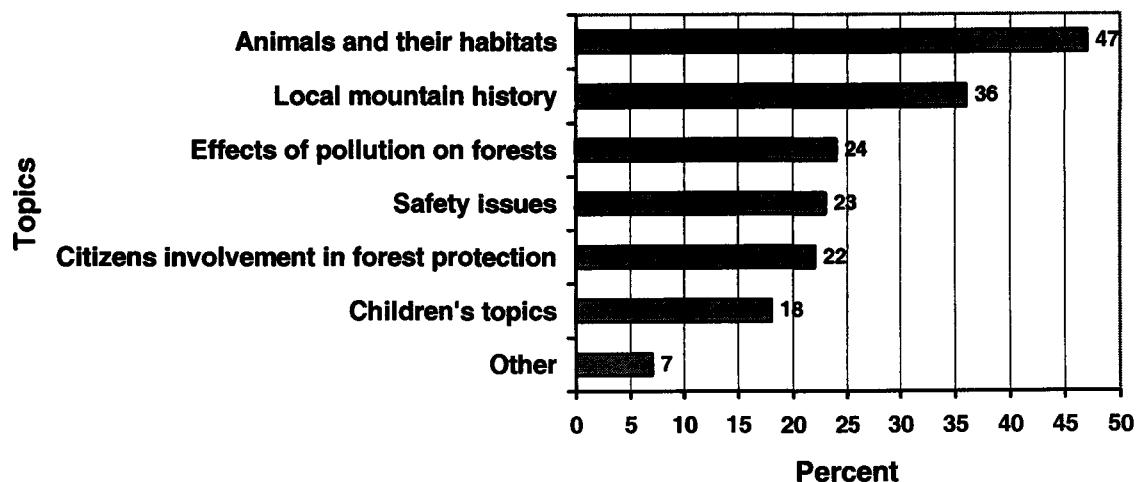


Figure 9. Ranger led activities in which respondents would participate (n = 270)

Respondents were asked how they first heard about the day use sites on the Forest.

The majority of visitors (73%) heard about these day use sites by word-of-mouth sources such as family members and friends (see Fig. 10). "Other" sources (n=16) included camping nearby, live locally, church, Internet, on a map, and topography map.

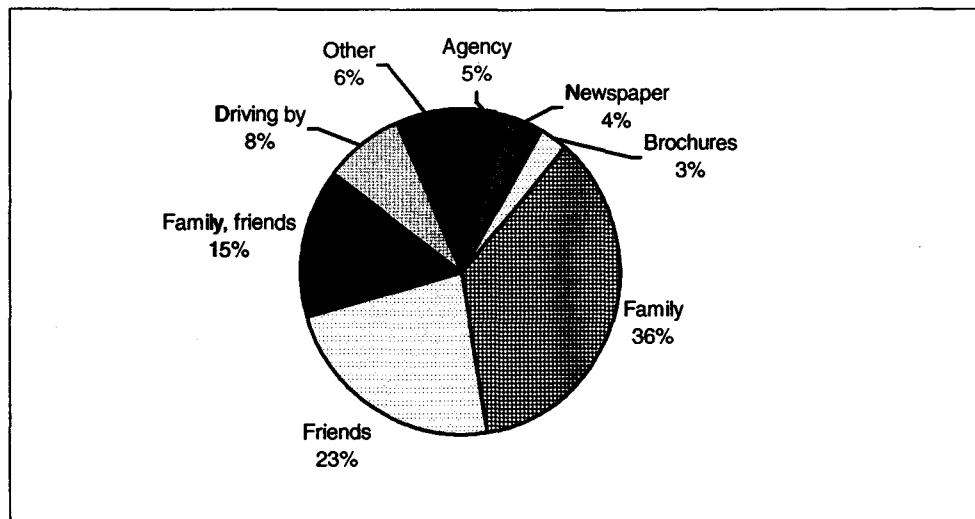


Figure 10. Information sources (n = 270)

Respondents were asked how they might like to receive information about National Forests while on-site. They were given response choices (e.g., brochure at entrance), and for each rated it as a source they liked or disliked. Approximately 7 in 10 respondents indicated that brochures given out upon entrance to the recreation site, signs along the road, and postings on bulletin boards were favorable ways to obtain information (see Fig. 11). Additionally, evening program at an information center and a radio broadcast were rated somewhat favorably. Evening programs were more popular among picnic area visitors than those who were surveyed at other day use sites ( $p=.033$ ). "Other" sources ( $n=9$ ) were Internet and local stores.

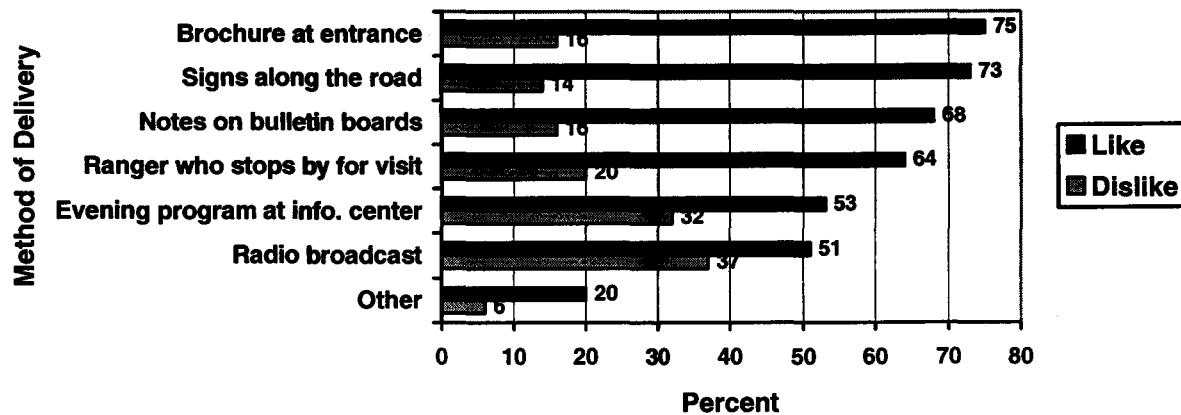


Figure 11. Preferences for information related to National Forests while on-site ( $n = 270$ )

When asked the types of site information desired, almost half the respondents indicated an interest in learning the location of streamside areas (see table 1). Also of interest to visitors were the locations of hiking trails in the area, picnic and barbecue sites, things to do and see while on the National Forest, the best times to visit in order to avoid crowds, and rare types of plants and animals. Fewer people were interested in information on ways to keep the area natural looking or hunting in the area. First time visitors were more likely to be interested in information about the cultural and historical features in the area (33%;  $p=.029$ ) and information about picnic and barbecue areas (50%;  $p=.007$ ). “Other” information ( $n=3$ ) included common, indigenous animals and plants and restrooms. On average, visitors were interested in 7.71 kinds of information (range = 0 - 24; SD = 5.64).

Table 1. Kinds of information respondents would like to receive ( $n = 270$ )

|   |   |
|---|---|
| <u>45%</u> Streamside areas                             | <u>33%</u> Fishing in the area                          |
| <u>43%</u> Hiking in the area                           | <u>32%</u> Location of overnight trails                 |
| <u>42%</u> Picnic/barbecue areas                        | <u>32%</u> History of the area                          |
| <u>42%</u> Things to see and do                         | <u>29%</u> Rules and regulations                        |
| <u>41%</u> Best times to visit the area to avoid crowds | <u>28%</u> Places similar to this one                   |
| <u>39%</u> Rare types of plants and animals             | <u>28%</u> Shooting areas                               |
| <u>37%</u> Surrounding area to the forest               | <u>27%</u> Ways to protect the wild area                |
| <u>37%</u> Location of day hike trails                  | <u>27%</u> Cultural and historical features of the area |
| <u>35%</u> Safety in the area                           | <u>24%</u> Off-highway vehicle riding areas             |
| <u>35%</u> Similar areas that are not crowded           | <u>22%</u> Hunting in the area                          |
| <u>34%</u> Types of plants and animals in the area      | <u>22%</u> Ways to keep the area natural looking        |
| <u>33%</u> Camping in the area                          | <u>2%</u> Other   |

Respondents with some college education were interested in a higher number of topics than those with a high school education or less (means = 9.16 and 6.38, respectively;  $t(258.59) = 4.07$ ,  $p < .000$ ). Hispanic respondents were interested in fewer topics than non-Hispanic visitors (means = 6.42 and 9.31, respectively;  $t(235.13) = 4.12$ ,  $p < .000$ ).

A few questions were asked in order to assess visitors' knowledge of the rules and regulations pertaining to National Forest use. Overall, approximately 50% or more participants demonstrated an understanding of these rules (see Fig.12). Receiving the most correct responses was the rule "you can get a ticket for cutting forest vegetation (e.g., tree branches)." Overall, respondents averaged 2.3 correct answers to the four questions ( $SD = 1.34$ ). College-educated respondents (mean = 2.61) answered a higher number of the questions correctly than those with a high school education or less (mean = 2.00,  $t (259.8) = 3.79$ ,  $p = .000$ ), and non-Hispanic visitors answered more correctly than the Hispanics in our sample (means = 2.81 and 1.78, respectively,  $t (240.48) = 6.45$ ,  $p = .000$ ).

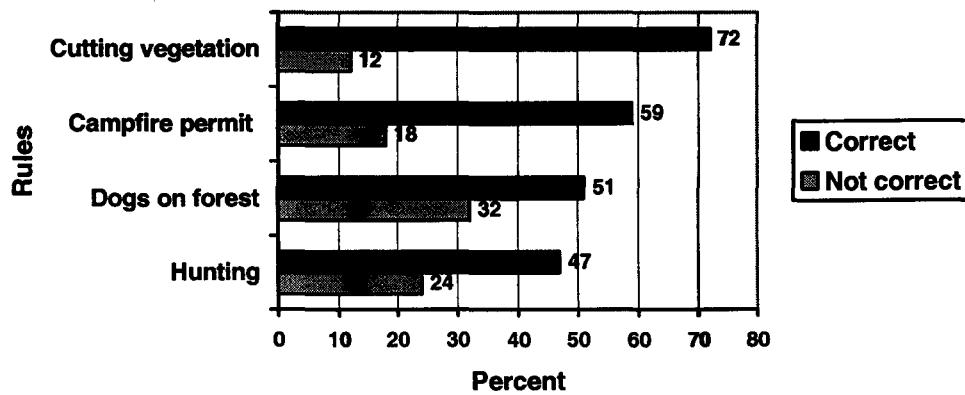


Figure 12. Rules and regulations ( $n = 270$ )

## Site Attributes

Respondents were asked their opinion about the kinds of facilities and amenities they would like on-site. Over one-third of day use visitors rated the presence of water faucets, picnic tables and trashcans as very important facilities/amenities to have on site for use (see table 2). Other important features were law enforcement, parking areas, cooking grills, and telephones. Of the ten items below, visitors rated an average of 6.2 of them as being "important" or "very important" to their enjoyment of the day use site ( $SD = 3.82$ ). "Other" responses ( $n=22$ ) included restrooms, clean bathrooms, showers, flushing toilets, trees, swings, playground, bathrooms with water, and bathrooms for children.

Respondents with previous experience (mean = 6.77) with the site they were visiting on the day of data collection rated a larger number of features/facilities as important/very important than first-time visitors (mean = 5.61,  $t (264.41) = 2.49$ ,  $p < .02$ ). Also, repeat visitors were more likely to consider the presence of law enforcement personnel as important/very important (75%;  $p=.024$ ).

Table 2. Relative importance of features/facilities on-site ( $n = 270$ )

|                              | Very<br>Unimportant | Unimportant | Neutral    | Important  | Very<br>Important | Don't<br>Know | Mean        |
|------------------------------|---------------------|-------------|------------|------------|-------------------|---------------|-------------|
| Water faucets                | <u>6%</u>           | <u>4%</u>   | <u>10%</u> | <u>35%</u> | <u>36%</u>        | <u>4%</u>     | <u>4.00</u> |
| Picnic tables                | <u>7%</u>           | <u>3%</u>   | <u>10%</u> | <u>36%</u> | <u>35%</u>        | <u>3%</u>     | <u>3.98</u> |
| Trash cans                   | <u>7%</u>           | <u>4%</u>   | <u>10%</u> | <u>37%</u> | <u>34%</u>        | <u>4%</u>     | <u>3.96</u> |
| Law enforcement<br>& patrols | <u>6%</u>           | <u>8%</u>   | <u>15%</u> | <u>32%</u> | <u>27%</u>        | <u>4%</u>     | <u>3.74</u> |
| Parking areas                | <u>6%</u>           | <u>7%</u>   | <u>11%</u> | <u>39%</u> | <u>26%</u>        | <u>3%</u>     | <u>3.81</u> |
| Cooking grills               | <u>8%</u>           | <u>10%</u>  | <u>12%</u> | <u>37%</u> | <u>26%</u>        | <u>4%</u>     | <u>3.68</u> |
| Telephones                   | <u>8%</u>           | <u>10%</u>  | <u>16%</u> | <u>37%</u> | <u>20%</u>        | <u>4%</u>     | <u>3.58</u> |
| Fire pits/rings              | <u>7%</u>           | <u>13%</u>  | <u>18%</u> | <u>28%</u> | <u>20%</u>        | <u>6%</u>     | <u>3.49</u> |
| Group facilities             | <u>7%</u>           | <u>10%</u>  | <u>21%</u> | <u>27%</u> | <u>18%</u>        | <u>6%</u>     | <u>3.46</u> |
| Restricted use<br>levels     | <u>7%</u>           | <u>9%</u>   | <u>16%</u> | <u>26%</u> | <u>18%</u>        | <u>13%</u>    | <u>3.52</u> |
| Other                        | <u>1%</u>           | <u>0%</u>   | <u>3%</u>  | <u>10%</u> | <u>14%</u>        | <u>3%</u>     | <u>4.31</u> |

In order to discover the site features that are important to particular groups of respondents within the sample, a series of *t* tests were run (see table 3). In general, repeat visitors rated the availability of group facilities, parking areas, trashcans, and water faucets as important features of the day use site. Items that were important to the Hispanic visitors included fire pits/rings, group facilities, telephones and cooking grills, while respondents with a high school education or less favored fire pits/rings, group facilities, and telephones.

**Table 3. Important Features/Facilities Broken Down by Sociodemographic Groupings (n=270)**

| Feature/facilities |                              | Mean | t statistic                               |
|--------------------|------------------------------|------|---|
| Fire Pits/Rings    | High school or less          | 3.71 |   |
|                    | Some College or more         | 3.31 | <i>t</i> (217.93) = 2.47, <i>p</i> < .02  |
|                    | Hispanic/Latino              | 3.74 |   |
|                    | Not Hispanic/Latino          | 3.23 | <i>t</i> (204.15) = 3.09, <i>p</i> < .005 |
| Group Facilities   | High school or less          | 3.64 |   |
|                    | Some College or more         | 3.31 | <i>t</i> (197.20) = 1.99, <i>p</i> < .05  |
|                    | Hispanic/Latino              | 3.69 |   |
|                    | Not Hispanic/Latino          | 3.21 | <i>t</i> (186.64) = 2.92, <i>p</i> < .005 |
| Telephones         | Have been to site before     | 3.63 |   |
|                    | Have not been to site before | 3.28 | <i>t</i> (213.58) = 2.197, <i>p</i> < .05 |
|                    | High school or less          | 3.74 |   |
|                    | Some college or more         | 3.42 | <i>t</i> (233.82) = 2.07, <i>p</i> < .05  |
| Cooking Grills     | Less than 34 years of age    | 3.69 |   |
|                    | More than 35 year of age     | 3.37 | <i>t</i> (80.87) = 2.19, <i>p</i> < .05   |
|                    | Hispanic/Latino              | 3.83 |   |
|                    | Not Hispanic/Latino          | 3.28 | <i>t</i> (219.85) = 3.48, <i>p</i> = .001 |
| Parking Areas      | Hispanic/Latino              | 3.90 |   |
|                    | Not Hispanic/Latino          | 3.42 | <i>t</i> (224.67) = 3.01, <i>p</i> < .005 |
| Trash Cans         | Have been to site before     | 3.98 |   |
|                    | Have not been to site before | 3.64 | <i>t</i> (233.22) = 2.26, <i>p</i> = .025 |
| Water Faucets      | Have been to site before     | 4.11 |   |
|                    | Have not been to site before | 3.78 | <i>t</i> (224.68) = 2.25, <i>p</i> = .025 |
|                    | Have been to site before     | 4.18 |   |
|                    | Have not been to site before | 3.80 | <i>t</i> (230.13) = 2.63, <i>p</i> < .05  |

Respondents were asked their preferences about trail length and design. The most popular types of hiking trails were those that would take 30 minutes or less to walk and are easy to navigate, with 3 out of 10 visitors endorsing these items (see Fig. 13). Both of these types of hiking trails were favored by respondents 34 years of age or older, with 43% desiring 30-minute walks ( $p=.019$ ) and 40% preferring easy trails ( $p=.024$ ). “Other” preferences ( $n=6$ ) included child-friendly, walking paths to lake, and horse trail.

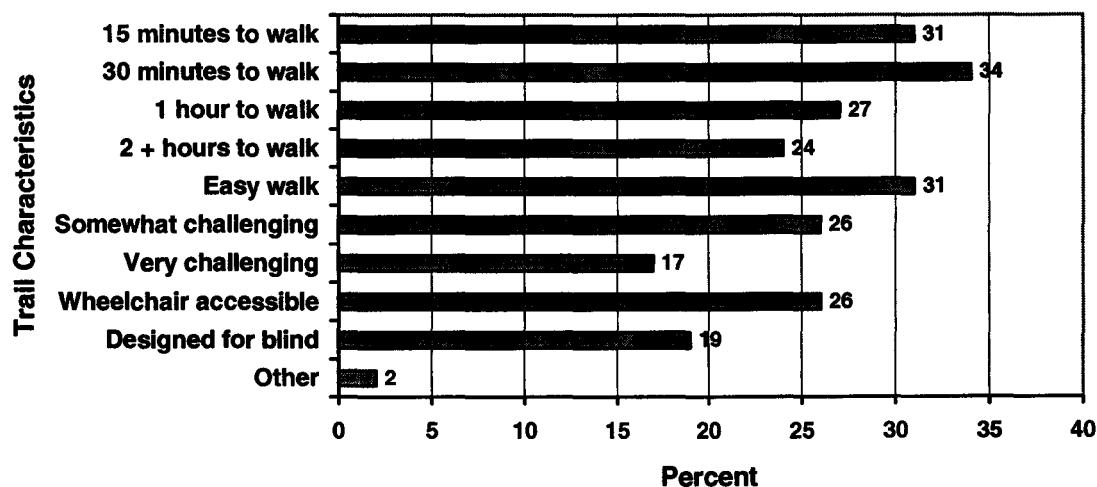


Figure 13. Trail preferences (n = 270)

### *Other Visitor Perceptions*

Respondents were told that some day use sites have been impacted by various human activities and were asked their opinions about impacts at the day use site. Five in ten day use visitors indicated that observing litter along the road and at picnic sites bothered them a lot (see table 4). The presence of graffiti on both natural and man-made surfaces also were rated as very bothersome, with close to half of the participants in agreement. The average number of items rated "bothers me a lot" was 3.16 (SD = 2.83). Additional statistical tests also revealed that respondents with some college education (mean = 3.61) indicated that a higher number of these items bothered them a lot as compared to those with a high school education or less (mean = 2.72,  $t(258.40) = 2.60$ ,  $p = .01$ ). Also, older respondents (i.e., those 34 or older) were bothered by these activities to a higher degree than younger visitors (means = 4.04 and 2.47, respectively,  $t(222.42) = 4.51$ ,  $p < .000$ ).

**Table 4. Ratings of events or behavior happening at the site (n = 270)**

|  | <b>It does not<br/>bother me</b> | <b>It bothers<br/>me a little</b> | <b>It bothers<br/>me a lot</b> | <b>I have not<br/>seen this</b> |
|--|----------------------------------|-----------------------------------|--------------------------------|---------------------------------|
| Litter along the road  | <u>17%</u>                       | <u>16%</u>                        | <u>53%</u>                     | <u>10%</u>                      |
| Litter at picnic sites   | <u>17%</u>                       | <u>15%</u>                        | <u>51%</u>                     | <u>10%</u>                      |
| Drawings or graffiti on<br>natural surfaces (e.g.,<br>rocks)       | <u>19%</u>                       | <u>18%</u>                        | <u>49%</u>                     | <u>11%</u>                      |
| Drawings or graffiti on man-<br>made surfaces (e.g.,<br>restrooms) | <u>17%</u>                       | <u>21%</u>                        | <u>44%</u>                     | <u>12%</u>                      |
| Carving of names, initials, or<br>messages on trees                | <u>30%</u>                       | <u>22%</u>                        | <u>33%</u>                     | <u>10%</u>                      |
| People drinking alcohol  | <u>34%</u>                       | <u>14%</u>                        | <u>31%</u>                     | <u>15%</u>                      |
| Cars parked at "no parking"<br>areas                               | <u>38%</u>                       | <u>20%</u>                        | <u>21%</u>                     | <u>17%</u>                      |
| A lot of people at the site  | <u>52%</u>                       | <u>19%</u>                        | <u>16%</u>                     | <u>12%</u>                      |
| Dogs walked off leash  | <u>39%</u>                       | <u>26%</u>                        | <u>16%</u>                     | <u>17%</u>                      |

Respondents were asked their impressions about their recreation experience. Day use visitors' feelings regarding their recreation experience were generally positive, with approximately 8 in 10 reporting that the trip was worth the money they spent to take it and that it was a great recreation experience (see Fig. 14).

More picnic site visitors (24%) than day use/trailhead users (8%) indicated that they were bothered by some aspect of the site ( $p=.013$ ), but picnic area visitors were more likely to feel that the site was safe and secure ( $p=.045$ ).

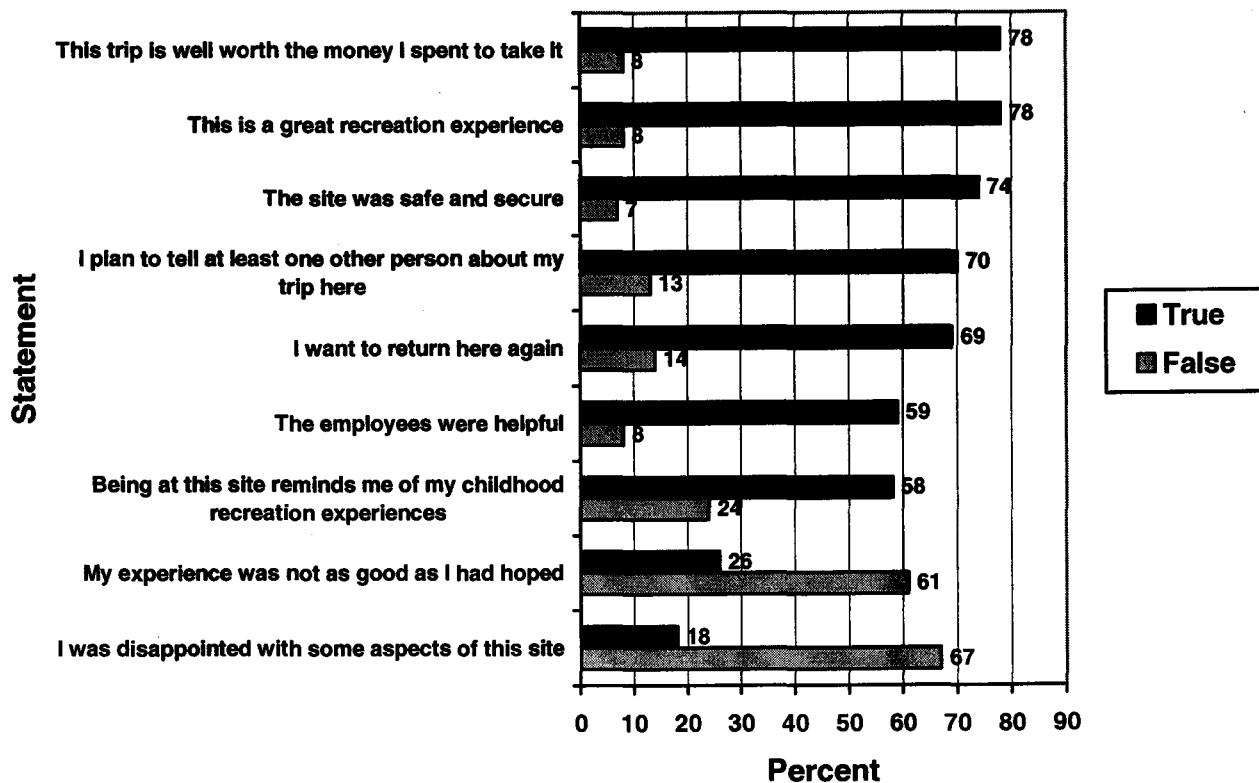


Figure 14. Impression of day use recreation experience (n = 270)

At the close of the instrument respondents had an opportunity to write other comments (see Appendix A). Most comments were about the restrooms (respondents wanted them cleaner and flush toilets, etc.) and about facilities/amenities (need more water, grills, etc.).

## Comparisons to the 1992 Day Use Study

Visitor characteristics have changed somewhat over the years. The average age of visitors in 1992 was 36.9 years, which is slightly older than the 2001 sample (35 years). Respondents in 1992 also had a higher average number of years of education, with 14.46 years as compared to 13.08 years for those surveyed in 2001.

As far as ethnic makeup of the two samples is concerned, there has been a shift in the number of Mexican-Americans who are utilizing day use sites (see Fig. 15). In 1992, Whites were the largest ethnic group (65%) and Mexican-Americans only made up 10% of the total sample. However, by 2001 the Mexican-American population had grown to 43% and the White population shrank to 37%.

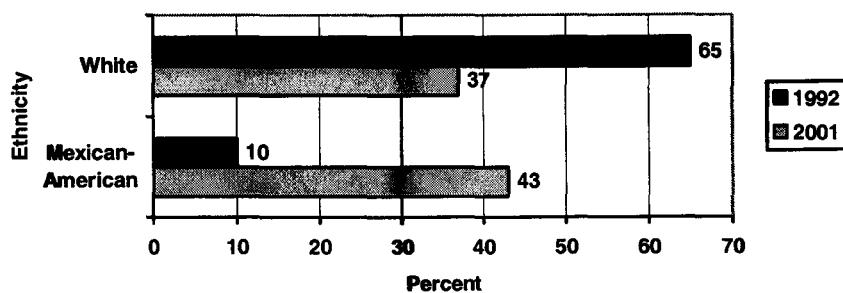


Figure 15. Changes in ethnic makeup of day use visitors from 1992 to 2001

These shifts in population are reflected in the data on language preferences as well, with the percent of visitors that chose English as their primary spoken and written language decreasing between 1992 and 2001 by 35%.

Other changes found while comparing the two data collection years includes respondents' country of origin, the amount of time visitors have lived in the U.S., and annual incomes. The 2001 data reflects a drop in the number of day use visitors born in this country with 62% indicating they were born in the U.S., down from 86% in 1992. Likewise, the amount of time respondents have lived in the U.S. has decreased over time. In 2001, the average number of years was 16.5, dropping from 34.4 in 1992. Income changes are seen primarily in the lower socioeconomic range. In 2001, a larger percentage of respondents indicated that their annual income was \$29,999 or less (1992: 25%; 2001: 39%), while the same percentage of visitors reported earnings of \$60,000 or more in both samples (25%).

In terms of visitation patterns, about half of the day use visitors were repeat visitors in both years of the survey (1992: 56%; 2001: 51%) and these repeat visitors had been coming to the forest for the same amount of time (i.e., 5 years). However, visitors in 2001 returned a higher number of times (3.6 times) in a 12 month period than those who visited in 1992 (2 times).

Picnicking was the most enjoyed activity for both years of the survey, with 33% of respondents indicating this preference (see Fig. 16).

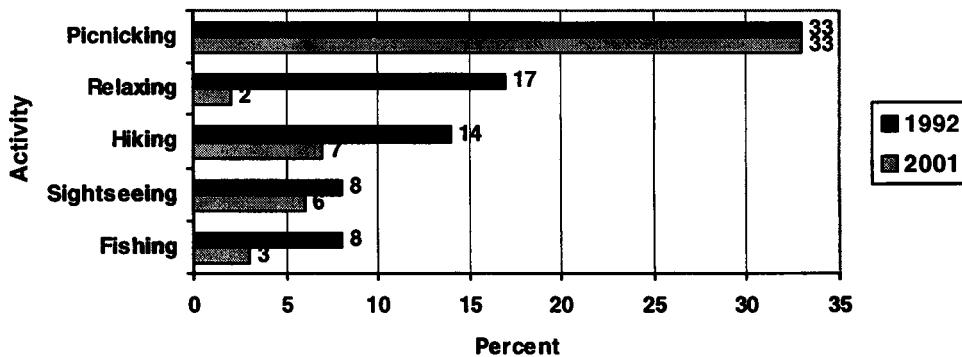


Figure 16. Comparison of favorite activities for two data collection years

Interest in ranger-led activities has not changed in the ranking of topic areas but has changed in the amount of interest expressed by respondents over the years (see Fig. 17). Larger proportions of visitors indicated they would participate in these activities in 1992 than in 2001. In fact, for the two top-rated activities (i.e., animals and their habitats and local mountain history), interest has dropped 26% and interest in effects of pollution and children's topics has dropped 20% over time.

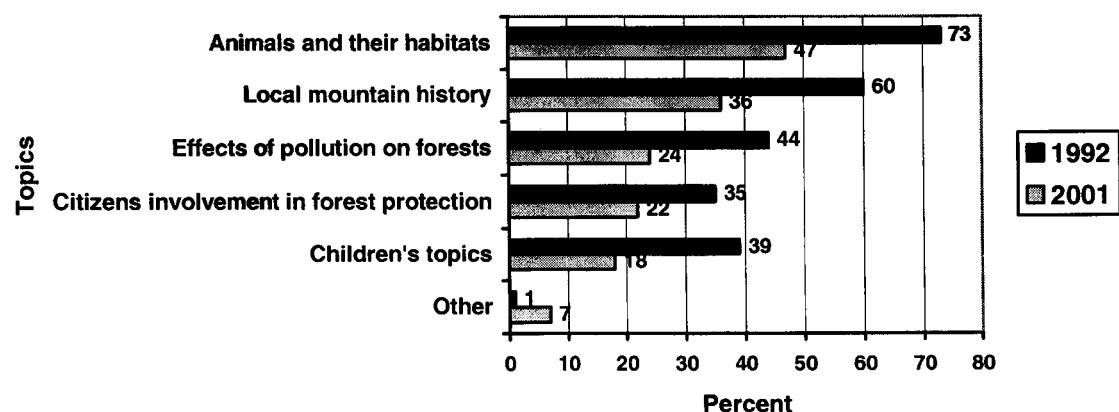


Figure 17. Changes in interest levels for ranger-led talks for two data collection years

A comparison of the preferences regarding modes of information delivery indicates that brochures have changed little in their popularity with day use visitors across time (see Fig. 18). Some of the less popular methods in 1992 have now gained more acceptance, with 50% or more respondents endorsing ranger visits, evening programs, and radio broadcasts.

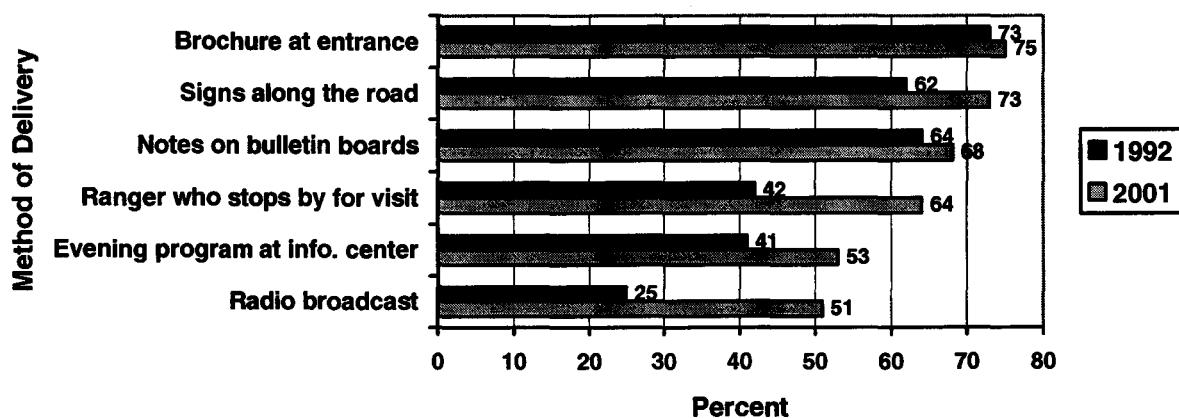


Figure 18. Comparison of the preferences for information related to National Forests while on-site for two data collection years

The kinds of information that visitors would like to hear more about has gone through a transformation over time (see Fig. 19). Although there has been a decrease in interest in learning about things to see and do and the natural, cultural and historical features of the area, visitors in 2001 were more interested in the safety of the area and rules and regulations.

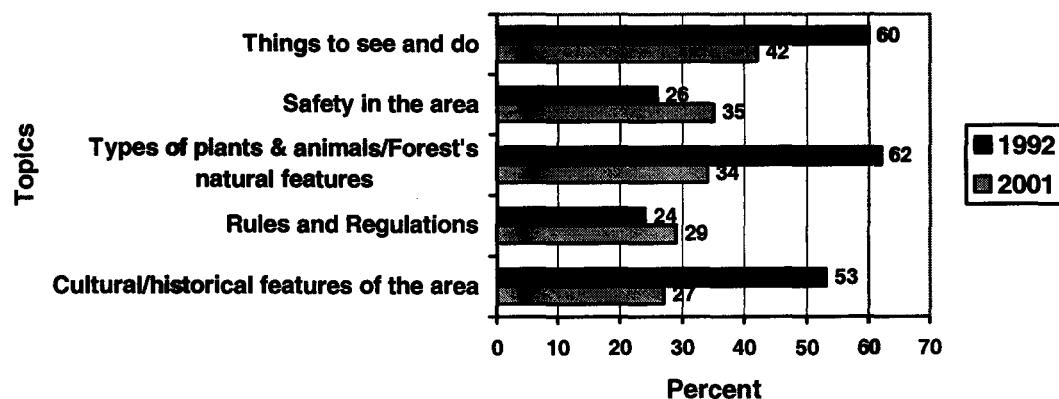


Figure 19. Comparison of the kinds of information respondents would like for two data collection years

In 2001 visitors rated water faucets and group facilities as more important than respondents in 1992 (see table 5). The presence of law enforcement personnel was equally important for visitors in both years of data collection.

Table 5. Comparison of the relative importance of features/facilities for two data collection years

| Feature/facility          | 1992        |            | 2001        |            |
|---------------------------|-------------|------------|-------------|------------|
|                           | mean        | n          | mean        | n          |
| Water faucets             | <u>3.83</u> | <u>156</u> | <u>4.00</u> | <u>270</u> |
| Picnic tables             | <u>4.30</u> | <u>155</u> | <u>3.98</u> | <u>270</u> |
| Trash cans                | <u>4.31</u> | <u>155</u> | <u>3.96</u> | <u>270</u> |
| Law enforcement & patrols | <u>3.71</u> | <u>151</u> | <u>3.74</u> | <u>270</u> |
| Group facilities          | <u>2.03</u> | <u>154</u> | <u>3.46</u> | <u>270</u> |

Overall, shorter trails and trails that are easy to somewhat challenging were preferred by respondents from both years (see Fig. 20).

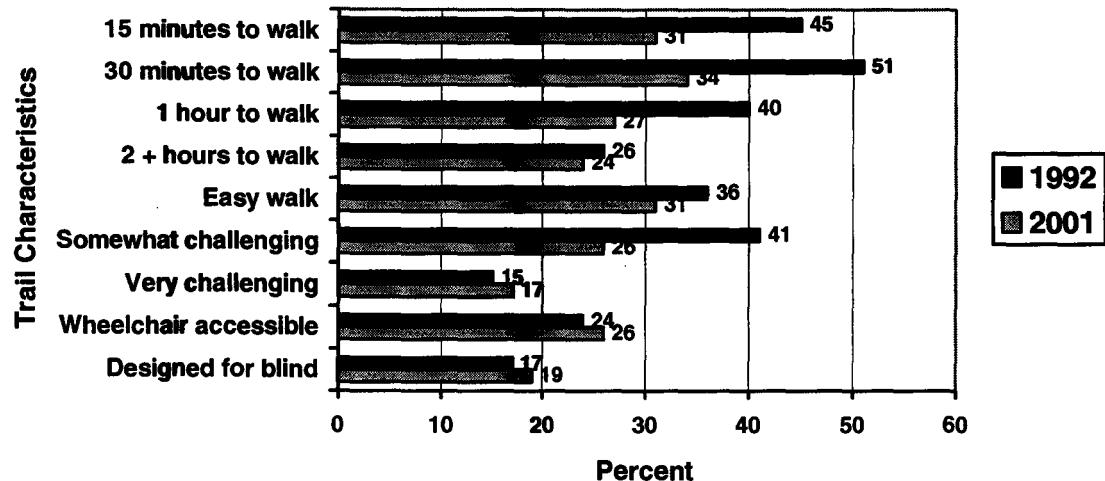


Figure 20. Comparison of the preferences for the kinds of trails respondents would like for two data collection years

## Conclusions

Results from the 2001 Day Use survey were presented in this report with some sub-group comparisons as well as comparisons to results from a study conducted 10 years ago on the San Bernardino National Forest.

Importantly, the race/ethnic demographic profile of visitors to day use sites has shifted over the past 10 years with a large increase in the Hispanic (especially Mexican-American) recreation visitor group. This in turn impacts other socio-demographic variables (lower age, lower levels of education completed, etc.) and shifts in responses to language preferences, information needs and desires, and desires for site amenities and facilities (Hispanics deem fire pits/rings, group facilities, telephones, and cooking grills as important).

Another important demographic was repeat visitation. Repeat visitors are likely to stay longer at the day use site and they are more likely to return again in the next 12 months. Repeat visitors feel that several facilities and amenities are important (these include group facilities, parking areas, trash cans, and water faucets), as is the presence of law enforcement.

The data indicate an increase need for communications in the Spanish language—both oral and written. This would indicate a need for employees who can converse in Spanish—especially those in public contact positions (front desk, recreation, law enforcement). Also it suggests the needs for written communications via brochures, signs along the road, notes on bulletin boards to be in Spanish. The best way to do this is through back-translation. If a sign needed to be translated, you would take the English version of the sign and have this sign translated in Spanish by a professional translator. Then take the Spanish language sign to another professional translator and have it translated into English. You will then be able to compare the English versions to be sure they match. All translations will need to be examined for culturally appropriate information as well. Doing these jobs is relatively costly when the translations are first done but will be well worth the effort and cost in the long run (it will save having several translations done because the first ones were incorrect), and your constituents will be well pleased with your efforts.

Many respondents were quite bothered by some behaviors (and their outcomes) that they saw at the day use sites. Especially bothersome was graffiti found on natural and man-made features. This suggests the need to keep these activities under control or cleaning them up in a timely manner. It would also be advisable to educate visitors about the harmful and expensive effects of these activities.

Respondents felt that overall the recreation experience that they had was a good one and worth the money they spent to take it. They felt safe and secure at the day use sites. Many planned to tell other people of their experiences and plan to return to the San Bernardino National Forest.

## Appendix A

### Additional Comments from Respondents

### **Comment**

Insects are a nuisance.

Drinking fountains do not work. There are no butt-gaskets or paper towels in the bathroom.

Picnic areas seem to be disappearing, blocked off.

Need more shade!

Booth dispensing Ad Pass on site.

Extremely pleasant to visit in hot valley temperatures – cooler, breezy, and great for grand children to run around.

Adventure Pass shouldn't be necessary to visit Nat'l Forest sites! Our taxes should be sufficient to cover cost of up keep.

More benches for pondering.

Information about hunting and recreational shooting. (Translated from Spanish)

An old lady kept bugging me to put my music down when I was on my way out. She lives by the exit.

The restrooms here are very unsanitary for our children. It would be nice if you guys would have flushable toilets.

Would like better and cleaner restroom "PLEASE"

Clean and better rest room to many fly

I am very glad to have come here. Very relaxing and enjoyable here.

I like that the bathrooms are cleaner and that the system is like how it is in the city.

More bathrooms and safer and cleaner.

That the bathrooms were safer.

We want the bathrooms to be remodeled since we believe that this will result in less insecurity.

I liked filling this out because it made me feel like my opinion was important. Thanks!

The girls were very friendly. Thank you!

We need to have water and more grills, please. (Translated from Spanish)

The site looks really nice.

Not enough burners, no running water. Girls were great.

Need to have running water; need new burners; too much trash; too much broken glass.